

# EXHIBIT 11

**UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

BILLJCO, LLC,

Plaintiff,

v.

APPLE INC.

Defendant.

Case No. 6:21-cv-528-ADA

**JURY TRIAL DEMANDED**

**DECLARATION OF MICHAEL FOLEY**

## **I. INTRODUCTION**

1. My name is Dr. Michael Foley, I am over 18 years of age, and am competent to make this declaration. If called to testify as a witness in this matter, I could and would testify truthfully to each of the matters set forth below.

2. My name is Dr. Michael Foley. I am currently the CEO of Innovative Yachtter Solutions, which provides consulting services relating to Internet-of-Things products, for example products that use Bluetooth Low Energy technology.

3. I have been retained to serve as an independent technical expert in this matter by Defendant Apple Inc.

4. I am being compensated for my work on this case at my standard consulting rate of \$400 per hour. I am being reimbursed for any out-of-pocket expenses incurred in relation to my work. My compensation does not depend on the outcome of this litigation or on the nature of any particular opinions I provide. I am not aware of having any other interests in this case or in any of the parties.

5. I have been asked by counsel for Apple to provide my opinions with respect to how a person of ordinary skill in the art would have understood certain words or phrases that appear in the claims of the following patents: U.S. Patent Nos. 8,566,839 (“839 patent”), 8,639,267 (“267 patent”), 8,761,804 (“804 patent”), 9,088,868 (“868 patent”), 10,292,011 (“011 patent”) and 10,477,994 (“994 patent”). I will refer to these patents collectively as the “Asserted Patents.”

6. In preparing this declaration, I have reviewed the Asserted Patents, their file history, the parties’ identification of claim terms and preliminary constructions, and extrinsic evidence identified by the parties in their respective claim construction disclosures.

7. In reaching my opinions, I relied on my background, knowledge, and experience in wireless communication protocols, as well as my involvement with the Bluetooth Special Interest Group (“SIG”), the entity responsible for overseeing the development of Bluetooth technology.

## **II. BACKGROUND AND QUALIFICATIONS**

8. I am an expert in wireless communications and have over 20 years of experience in that field. I received a Bachelor of Science degree in Electrical Engineering from the University of Iowa, and a Master’s degree and Ph.D. in Electrical Engineering from Arizona State University.

9. From 1999 to 2004, I worked at Microsoft Corporation as a wireless systems architect, where I worked on integrating wireless technology into Windows® and WinCE® platforms. I was also the Microsoft representative to several standards groups, including the Bluetooth SIG, the WAP Forum, and the Wi-Fi Alliance.

10. From 2004 to 2012, I worked at the Bluetooth SIG as Executive Director and CEO. My responsibilities as Director and CEO of the Bluetooth SIG included, but were not limited to, directing strategy, member relations, operations, and technology development, expanding the Bluetooth SIG into Europe and Asia, and managing Bluetooth SIG board meetings.

11. During this time, I worked with engineers from around the world creating specifications for these standard organizations. Through that work, I was exposed to engineers of various levels of expertise and gained insight into an individual of ordinary skill in the art for purposes of the ’207 patent.

12. A true and correct copy of my *curriculum vitae* is included as Exhibit A to this declaration.

### III. LEGAL PRINCIPLES

13. Apple's counsel has informed me and asked me to apply the following legal understandings in developing my opinions that I express in this declaration.

14. I understand that, in general, the terms of a patent claim are given the meaning they would have had to a person of ordinary skill in the art at the time the invention was made, in view of the intrinsic evidence, including a patent's claims, specification, and prosecution history.

15. I further understand that a patent owner can "act as his own lexicographer," which I understand to mean that a patent can define a term to have a meaning other than the one that a person of skill in the field would normally give it. I further understand that a patent owner can define his own phrases or terms, and that the meaning of those phrases or terms would then come from the patent. I have been informed that such a definition may be express or implied.

16. I understand that in assessing how a person of ordinary skill in the art would understand a claim term, it is permissible, and sometimes helpful, to consult other evidence that is not part of intrinsic evidence, such as testimony, dictionary definitions, and technical treatises. I understand that such other evidence is commonly referred to as "extrinsic evidence."

17. I understand that a person of ordinary skill in the art relevant to a patent is a hypothetical person who is presumed to have known all of the relevant prior art as of the priority date of the patent. I further understand that factors that may be considered in determining the level of ordinary skill in the art may include: (a) the educational level of the inventor; (b) the type of problems encountered in the art; (c) prior art solutions to those problems; (d) the rapidity with which innovations are made; (e) the sophistication of the technology; and (f) the educational level of active workers in the field.

18. I was asked to provide my opinions as to the meaning of the following disputed terms: "a Bluetooth communications interface" and "a frame."

19. The opinions expressed in this declaration are based on my background, training, experience, education, general knowledge of wireless protocol systems, and my review of materials relevant to this case. I reserve the right to supplement or amend my opinions as permitted by any applicable rules or by the Court if additional information is brought to my attention or in response to submissions by the Plaintiff in this case, including based on disclosure of opinions offered on behalf of Plaintiff.

#### **IV. LEVEL OF ORDINARY SKILL IN THE ART**

20. In my opinion, and for each of the asserted patents, a person of ordinary skill in the art would have at least a bachelor's degree in computer science, computer engineering, or an equivalent, and two years of experience relating to wireless communications. Additional education in wireless systems can make up for a lack in experience, and vice versa.

21. Under this standard, I am a person of ordinary skill in the art.

#### **V. OPINIONS**

##### **A. “a Bluetooth communications interface” ('994 patent, claims 1, 8, 14)**

22. Claims 1, 8, and 14 each recite a “Bluetooth communications interface.” In my opinion, a person of ordinary skill in the art would have understood a “Bluetooth communications interface” to mean a communications interface designed to communicate using Bluetooth as defined in Version 2.1 + EDR and earlier versions of the Bluetooth Core Specification.

23. I understand that a claim term is given the meaning that it would have to a person of ordinary skill in the art at the time the invention was made, and that the invention is understood in view of a patent's intrinsic evidence, such as the claims, specification, and prosecution history of a patent.

24. For the '994 patent, I understand Plaintiff BillJCo, LLC ("Plaintiff") contends that claims 1, 8, and 14 are entitled to a priority date of March 14, 2008, based on the filing date of Application No. 12/077,041. See Ex. 10 (BillJCo's Preliminary Infringement Contentions), 1.

25. As of March 14, 2008, the most recent version of the Bluetooth Core Specification that had been published and adopted by the Bluetooth Special Interest Group ("SIG") is Version 2.1 + EDR.

26. The Bluetooth SIG is the organization that oversees development of Bluetooth standards, Bluetooth technology licensing, and Bluetooth trademarks. The Bluetooth SIG was founded in 1998 and exists today. It continues to oversee Bluetooth technology, including development and adoption of Bluetooth Core Specifications. Entities can generally join the Bluetooth SIG at various levels of membership, including promoter, associate, and adopter memberships. To date, more than 35,000 entities have joined the Bluetooth SIG at one of these three levels of membership.

27. I was the executive director of the Bluetooth SIG from approximately 2004 to 2012. I oversaw the development and adoption of various Bluetooth Core Specifications, including Version 2.1 + EDR.

28. I was the executive director when Bluetooth Low Energy ("LE") technology was adopted by the Bluetooth SIG in 2010. Bluetooth LE technology was first adopted by the Bluetooth SIG in approximately June 2010 in Version 4.0 of the Bluetooth Core Specification. This adoption occurred well after the priority date alleged by Plaintiff, March 14, 2008.

29. Bluetooth technology described in Core Specification versions adopted prior to the Bluetooth Core Specification Version 4.0 is commonly referred to as Bluetooth "classic."

Bluetooth technology introduced in the Bluetooth Core Specification Version 4.0 is commonly referred to as “Low Energy” or “LE.”

30. Bluetooth LE is not backwards compatible with Bluetooth classic—devices supporting only Bluetooth LE cannot communicate with devices supporting only Bluetooth classic. A device with a communications interface configured to support only Bluetooth classic technology cannot communicate with a device with a communications interface configured to support only Bluetooth LE. Indeed, to reduce compatibility confusion, the Bluetooth SIG introduced a “Bluetooth Smart” logo to clarify the compatibility between newer LE devices configured to use the Bluetooth LE and other Bluetooth devices configured to use Bluetooth classic.

31. As an example, Bluetooth classic and Bluetooth LE use different procedures for discovery of nearby compatible devices. Bluetooth classic uses an “inquiry” packet that is broadcast over 79 possible frequencies, or “channels,” by an inquiring device. After transmission, the inquiring device listens in subsequent time slots on the same frequencies that it sent the inquiry packet. If the inquiring device receives no responses, it repeats the broadcast of inquiry packets on different frequencies. Bluetooth LE in contrast uses only three channels to broadcast “advertising” packets. Different types of advertising packets may be sent, including directed and undirected packets, connectable and non-connectable packets, and scannable and non-scannable packets.

32. In my opinion, a person of ordinary skill in the art thus would have understood “Bluetooth” in the ’994 patent to mean Bluetooth Version 2.1 + EDR and earlier. As of March 14, 2008, the most recently adopted Bluetooth Core Specification was version 2.1 + EDR. This



Bluetooth Core Specification version describes *only* Bluetooth classic technology. Indeed, Bluetooth LE technology did not then exist, and would not exist for several years.

33. Further, it is my opinion that a person of ordinary skill in the art would have understood a “communications interface” designed to support “Bluetooth” as supporting only Bluetooth Version 2.1 + EDR and earlier, as a person of ordinary skill in the art would not have contemplated a “communications interface” configured to communicate with a technology (i.e., Bluetooth LE) that did not exist at the time of Plaintiff’s claimed invention.

**B. “a frame” (’839 patent, claim 24)**

34. Claim 24 of the ’839 patent recites “a frame.” In my opinion, a person of ordinary skill in the art would have understood the term “a frame” as recited in claim 24 to mean “a single still image” for several reasons.

35. *First*, the specification only describes a “frame” as an image frame, for example an image taken from a video. There are two (2) instances where a “frame” is described in the specification.

36. The first recitation of a “frame” is included in the following passage of the specification:

There are many different message types depending on what formats will or can be supported in field 9850c. Some examples: ... video recording types: MPEG-1, MPEG-2, WMV, MOV, AVI, pixel and/or scan line information, *frame sampling rate* information, or any combination of information describing a video recording type for processing.

Ex. 2 (’839 patent), 14:37-47 (emphasis mine).

37. A “frame sampling rate” is a well-known concept in video processing. A “frame rate” refers to the frequency (*i.e.*, a rate) at which a series of images or frames is captured or

displayed, and “sampling” refers to the frequency at which a frame rate is sampled. A person of ordinary skill in the art would thus understand the recited “frame” as referring to an image frame.

38. The second recitation of “frame” in the specification is included in the following passage:

If block 10562 determines the user selected to configure a MS movement event for automated AD presentation processing, then block 10564 interfaces with the user for convenient specification of the following information: 1) ...; 4) Optional EFR criteria for comparing to automatically recognized data (e.g. text) by the MS as *one or more frames are captured* or “seen” by the MS.

Ex. 2 (’839 patent), 54:38-50 (emphasis mine).

39. Here, the specification is describing the embodiment of Figure 24 of the ’839 patent that is described in part at column 54, lines 38 to 50. There, the specification describes that, at block 10562, the system determines if the user wishes to configure a “MS movement event” for “automated [advertising] presentation processing.” *Id.* If yes, the logic proceeds to block 10564, where the device “interfaces” with a user to receive various types of user input, including “[o]ptional [Event Filter Record] criteria for comparing to automatically recognized data (e.g. text) by the MS as one or more frames are captured or ‘seen’ by the MS.” *Id.*

40. In my opinion, a person of ordinary skill in the art would understand that the “one or more frames” that are “captured” refers to capturing an *image* frame. This understanding is supported by the specification’s subsequent statement that “EFR information is used to qualify the event for what the MS ‘sees’ at the location and movement criteria specified. The charter(s) access the appropriate AppTerm variables for whether or not *the camera/video input is active* and a running length of recognition criteria since being activated.” Ex. 2 (’839 patent), 54:58-62 (emphasis mine). It is my opinion that the reference to a “camera” and “video input” immediately after the “one or more frames are captured” language further informs a person of

ordinary skill in the art that “one or more frames” that are “captured” refers to capturing image frames.

41. *Second*, the surrounding claim language (i.e., “a frame captured by said receiving data processing system”) supports interpreting a “frame” as “a single still image” because the recited “frame” is “captured” by the receiving data processing system. This claim language is consistent with the specification passage recited above that describes an image frame that is “captured” from a “camera” or “video input” feed. Ex. 2 ('839 patent), 54:38-62.

42. For the reasons above, it is my opinion that a person of ordinary skill in the art would have interpreted “a frame” as “a single still image,” consistent with Apple’s construction.

## VI. RESERVATION OF RIGHTS

43. I understand that Plaintiff has proposed “Plain and Ordinary Meaning, No Construction Needed” for each of the terms including “a Bluetooth communications interface,” and “a frame.”

44. I reserve the right to supplement the opinions I express in this declaration, to the extent Plaintiff proposes any construction or to rebut any evidence Plaintiff may provide for those terms. I further reserve the right to supplement my opinions should Plaintiff modify its proposed constructions for any other claim term at issue.

45. I declare under penalty of perjury that the foregoing is true and correct.

This declaration was executed on November 30, 2021.

  
Dr. Michael Foley